

Chapter A8. BOTTOM-MATERIAL SAMPLES

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ABSTRACT

The *National Field Manual for the Collection of Water-Quality Data* (*National Field Manual*) describes protocols (requirements and recommendations) and provides guidelines for U.S. Geological Survey (USGS) personnel who collect data used to assess the quality of the Nation's surface-water and ground-water resources. This release of Chapter A8 provides guidelines for the equipment and procedures needed to collect and process samples of bottom material for the evaluation of surface-water quality.

Each chapter of the *National Field Manual* is published separately and revised periodically. Newly published and revised chapters will be announced on the USGS Home Page on the World Wide Web under "New Publications of the U.S. Geological Survey." The URL for this page is <<http://pubs.usgs.gov/publications/index.html>>.

INTRODUCTION

As part of its mission, the U.S. Geological Survey (USGS) collects data needed to assess the quality of our Nation's water resources. The *National Field Manual for the Collection of Water-Quality Data* (*National Field Manual*) describes protocols (requirements and recommendations) and provides guidelines for USGS personnel who collect data used to assess the quality of the Nation's surface-water and ground-water resources.

The *National Field Manual* is Section A of Book 9 of the USGS publication series Techniques of Water-Resources Investigations (TWRI). A complete list of TWRI publications is included at the end of this report. The *National Field Manual* is comprised of individually published chapters. Chapter numbers are preceded by an "A" to indicate that the report is part of the *National Field Manual*.

4—BOTTOM-MATERIAL SAMPLES

Chapter A8 on bottom-material samples includes procedures and guidelines for selection of sampling sites, selection and decontamination of equipment, and the collection, processing, packaging, and shipping of samples. Formal training and field apprenticeship are necessary in order to implement correctly the procedures described in this report.

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PURPOSE AND SCOPE

Chapter A8 of the *National Field Manual* provides guidelines and standard procedures to be used by USGS personnel for field activities related to the collection and processing of bottom-material samples. The *National Field Manual* is targeted specifically toward field personnel in order to (1) establish and communicate scientifically sound methods and procedures; (2) provide citable documentation for USGS water-quality data-collection protocols; (3) encourage consistent use of field methods for the purpose of producing nationally comparable data; and (4) provide methods that minimize biasing the data and, when properly applied, that result in data that are reproducible within defined limits of variability.

It is impractical to provide guidance that would encompass the entire spectrum of data-collection objectives, site characteristics, environmental conditions, and technological advances related to water-quality studies. The fundamental responsibility of field personnel is to select methods that are compatible with the scientific objective for the field work and to use procedures that are consistent with USGS standard procedures to the extent possible. Under some circumstances, data collectors may have to modify standard procedures. However, whenever a standard procedure is modified or an alternative procedure is used, a description of the procedure used and supporting quality-assurance information are to be reported with the data.

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FIELD MANUAL REVIEW AND REVISION

Chapters of the *National Field Manual* will be reviewed, revised, and reissued periodically to correct any errors, incorporate technical advances, and address additional topics. Please send comments or corrections to: NFM-QW, USGS, 412 National Center, Reston, VA 20192 (or send electronic mail to: nfm-owq.usgs.gov). Newly published and revised chapters will be announced on the USGS Home Page on the World Wide Web under “New Publications of the U.S. Geological Survey.” The URL for this page is <<http://pubs.usgs.gov/publications/index.html>>.

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